

Work Order ID 52365

Tuesday, September 22, 2009 3:13:00 PM

Page 1

Item ID: D3121-143

Accept

Revision ID: E

Item Name: Bracket Assembly

Start Date: 9/23/2009 Start Qty: 8.00

Required Date: 10/9/2009 Req'd Qty: 8.00

Reference:

Cust Item ID:

Customer:

Approvals:

Process Plan:

Date: 09-22-09

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3121	Rev E								

100

0.00



BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut blanks: (1.250" x 2.000") 4.425" long

SK 09/10/09

110

0.00



HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1-Machine D3121-113 as per Folio FA330 and Dwg D3121 Identify as
D3121-113 2-Deburr 3-Scribe batch numbermt
09/10/09

120

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

mt
09/10/09



Work Order ID 52365




Tuesday, September 22, 2009 3:13:00 PM



Page 2

Item ID: D3121-143 Accept  Setup Start 
Revision ID: E Stop 
Item Name: Bracket Assembly
Start Date: 9/23/2009 Start Qty: 8.00  Cust Item ID:
Required Date: 10/9/2009 Req'd Qty: 8.00  Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start 
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop 

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130  QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00	OK 09/10/07				8	0	
140  Small Fab Small Fab	Small Fab Memo Assemble D3121-143 as per Dwg D3121.	0.00 0.00	GS 09/10/13 (8)						
150  QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00	27 507/10/13				(XB)	/	

Work Order ID 52365

Tuesday, September 22, 2009 3:13:00 PM



Page 3

Item ID: D3121-143

Accept



Setup Start



Revision ID: E

Stop



Item Name: Bracket Assembly

Start Date: 9/23/2009 Start Qty: 8.00



Cust Item ID:

Required Date: 10/9/2009 Req'd Qty: 8.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 	Identify as per dwg & Stock Location: <u>235A</u>	0.00							
Packaging	Memo	0.00							
Packaging									
170 	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

09/14/13 (8)09/10/14 RR 09-10-14

Picklist Print

Tuesday, September 22, 2009 3:13:00 PM

Page 1

Work Order ID: 52365



Parent Item: D3121-143RevE



Parent Item Name: Bracket Assembly

Start Date: 9/23/2009

Required Date: 10/9/2009

Comments:

Start Qty: 8.00

Required Qty: 8.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
M6061T6B0.250X01.25 0		Purchased	No				f	80.3700	1.3600			



6061-T6 Bar .250 X 1.25



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

MAT

80.37

109058

20

109140

40

10956

20.37

111787

M17-4

1.25" x 2.00"

Batch: 111787

Mon 9/10/05

SL 09/16/05

D3121-241

B

46169 (4K)

B52717 (12X)

EP 09/10/13

D3121-21

B50096 (12X)

B52518 (4K)

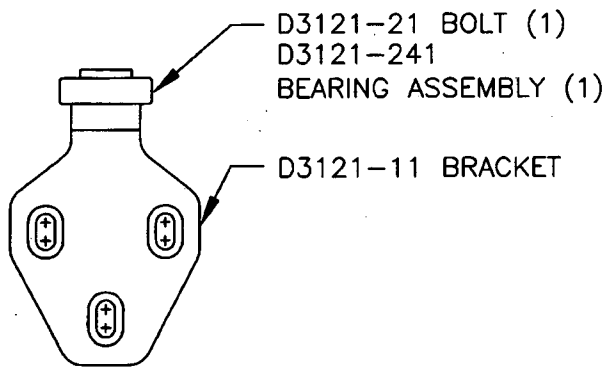
EP 09/10/13

SHC
 RET
 ENG
 UNCONT
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 022365



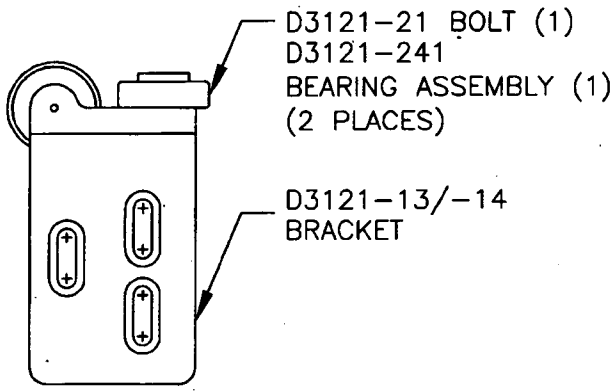
DESIGN #	DRAWN BY LE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3121	REV. E SHEET 1 OF 10
DATE 07.11.07	TITLE BRACKET ASSEMBLY		SCALE 1:2
A	02.04.15	NEW ISSUE	
B	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146	
C	04.02.17	ADD CLEARANCE; USE -241 BEARING	
D	06.05.17	D3121-25 CAP WAS 1.024, NOW 1.000	
E	07.11.07	ADD TOLERANCE TO 0.032 (DETAIL B)	

RELEASED
 07.11.07



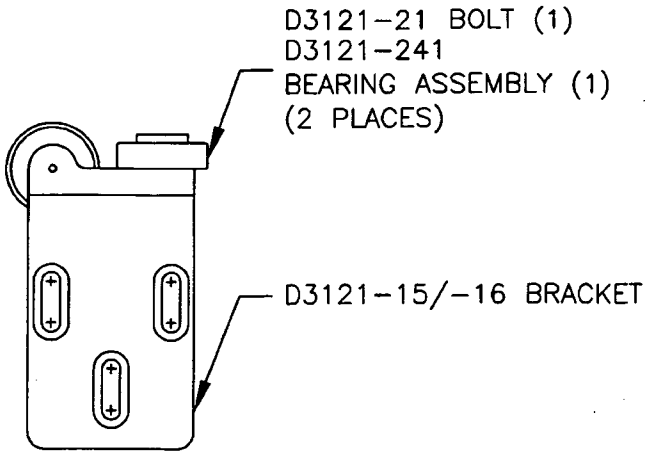
D3121-21 BOLT (1)
 D3121-241
 BEARING ASSEMBLY (1)
 D3121-11 BRACKET

D3121-041 BRACKET ASSEMBLY
 (REPLACES PREMIER P/N B30-23000-33)



D3121-21 BOLT (1)
 D3121-241
 BEARING ASSEMBLY (1)
 (2 PLACES)
 D3121-13/-14
 BRACKET

D3121-043 (SHOWN) / D3121-044 (OPPOSITE) BRACKET ASSEMBLY
 (REPLACES PREMIER P/N B30-23000-37/-38)



D3121-21 BOLT (1)
 D3121-241
 BEARING ASSEMBLY (1)
 (2 PLACES)
 D3121-15/-16 BRACKET

D3121-045 (SHOWN) / D3121-046 (OPPOSITE) BRACKET ASSEMBLY
 (REPLACES PREMIER P/N B30-23000-35/-36)

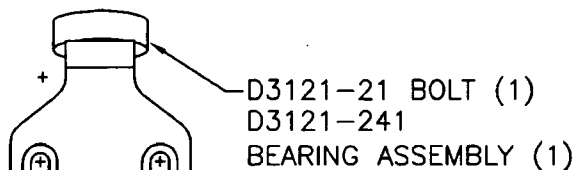
Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

52365



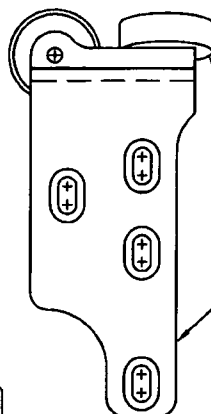
DESIGN #	DRAWN BY LE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3121	REV. E SHEET 2 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2



D3121-111 BRACKET

D3121-141 BRACKET ASSEMBLY

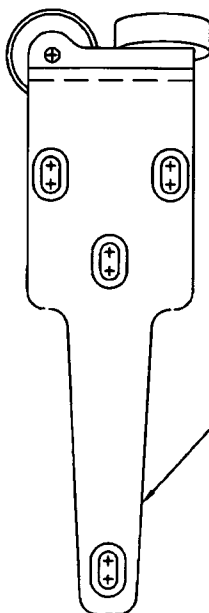
(REPLACES PREMIER P/N B30-23001-01)

RELEASED
07.11.07

D3121-113/-114 BRACKET

D3121-143 (SHOWN) / D3121-144 (OPPOSITE) BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-03/-04)

D3121-115/-116
BRACKET**D3121-145 (SHOWN) / D3121-146 (OPPOSITE) BRACKET ASSEMBLY**

(REPLACES PREMIER P/N B30-23000-05/-06)

Copyright © 2002 by DART AEROSPACE LTD

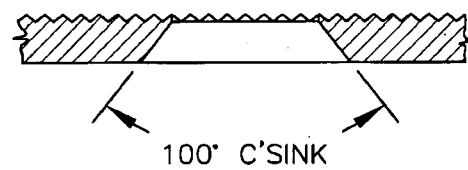
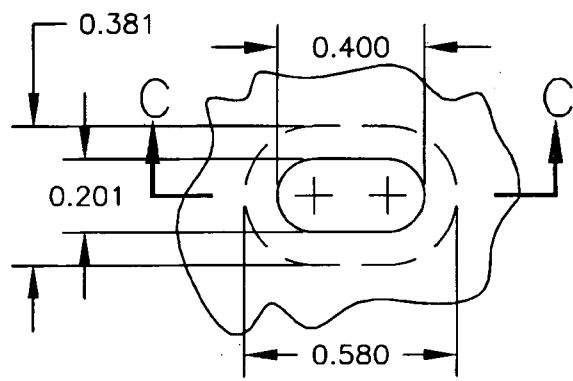
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

52365



DESIGN #	DRAWN BY LE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3121	REV. E SHEET 3 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:1

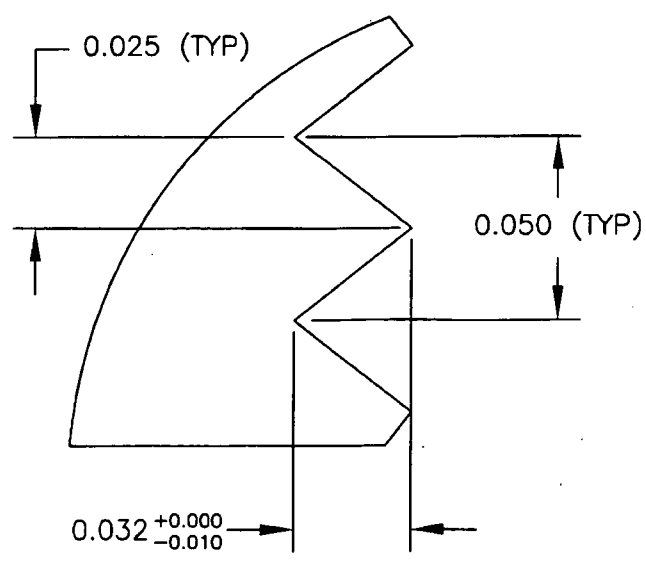
DETAIL A:
SLOT DETAIL
SCALE 2:1
VIEW ROTATED



SECTION
C-C

RELEASED
07.11.07

DETAIL B:
RIDGE DETAIL
PARTIAL SECTION
SCALE 1:20



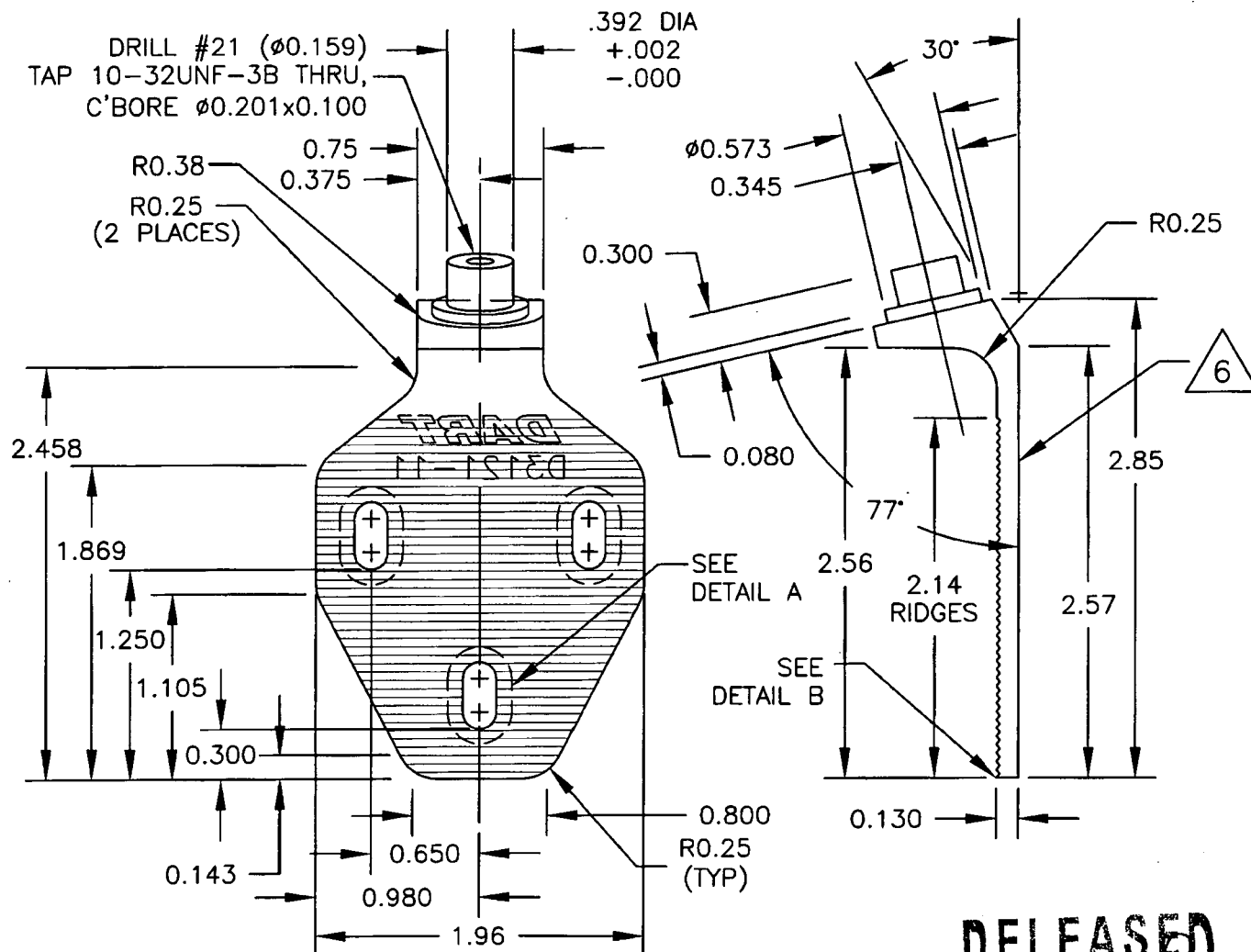
Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

52365



DESIGN #1	DRAWN BY LE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #1	APPROVED #1	DRAWING NO. D3121	REV. E SHEET 4 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:1



RELEASED
07.11.07

D3121-11 BRACKET

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

Copyright © 2004 by DART AEROSPACE LTD

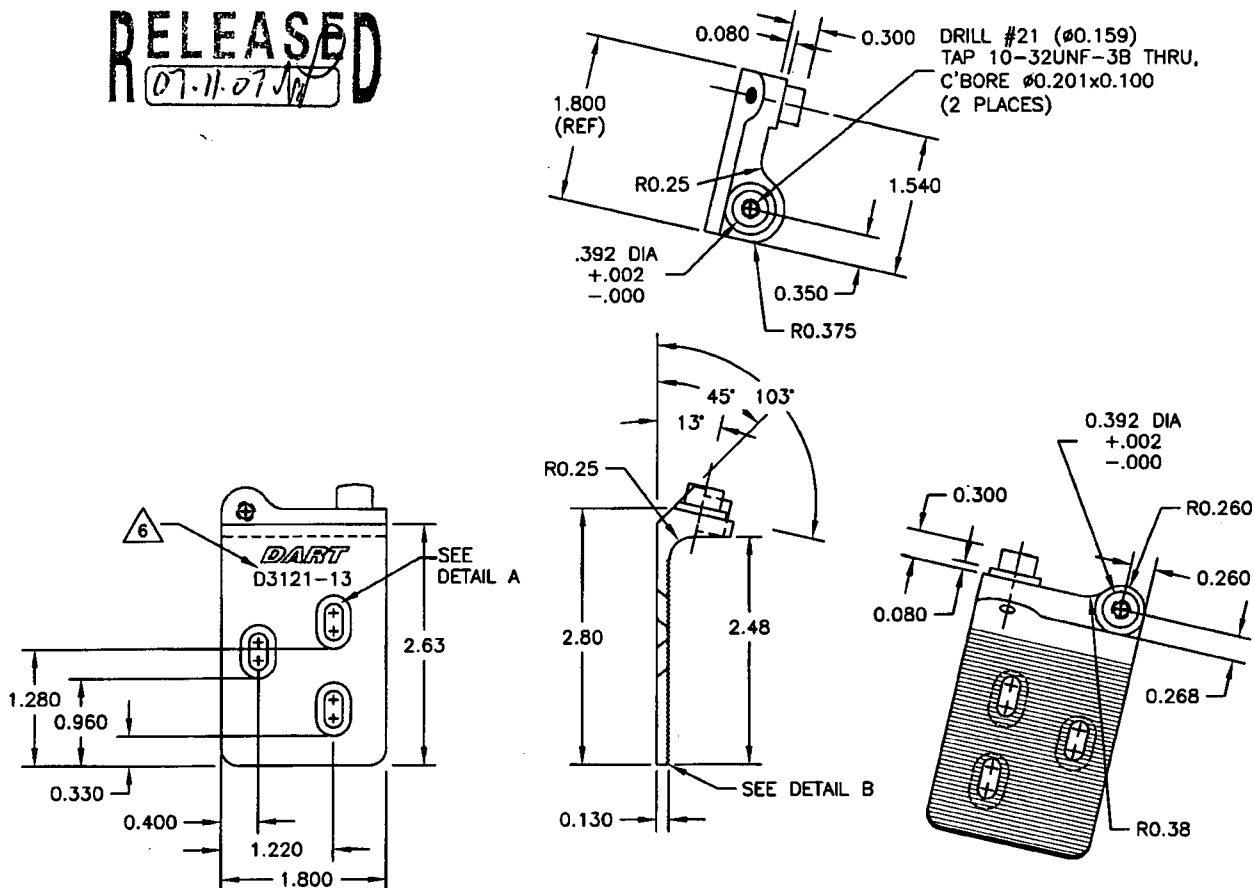
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

52365

DART

DESIGN #	DRAWN BY LE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3121	REV. E SHEET 5 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

RELEASED
07.11.07



D3121-13 BRACKET (SHOWN)
D3121-14 BRACKET (OPPOSITE)

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

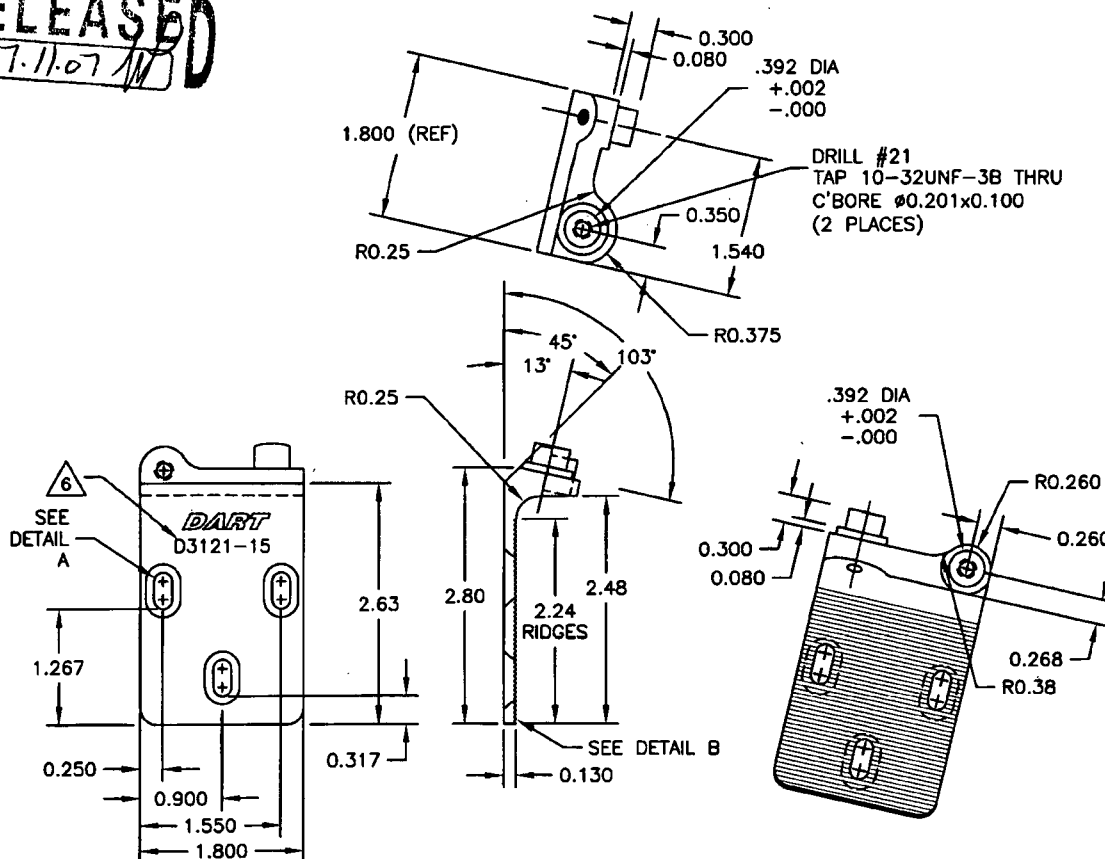
Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

52365

DART

DESIGN #	DRAWN BY LE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3121	REV. E SHEET 6 OF 10
DATE 07.11.07	TITLE BRACKET ASSEMBLY		SCALE 1:2

RELEASED
07.11.07**D3121-15 BRACKET (SHOWN)****D3121-16 BRACKET (OPPOSITE)**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

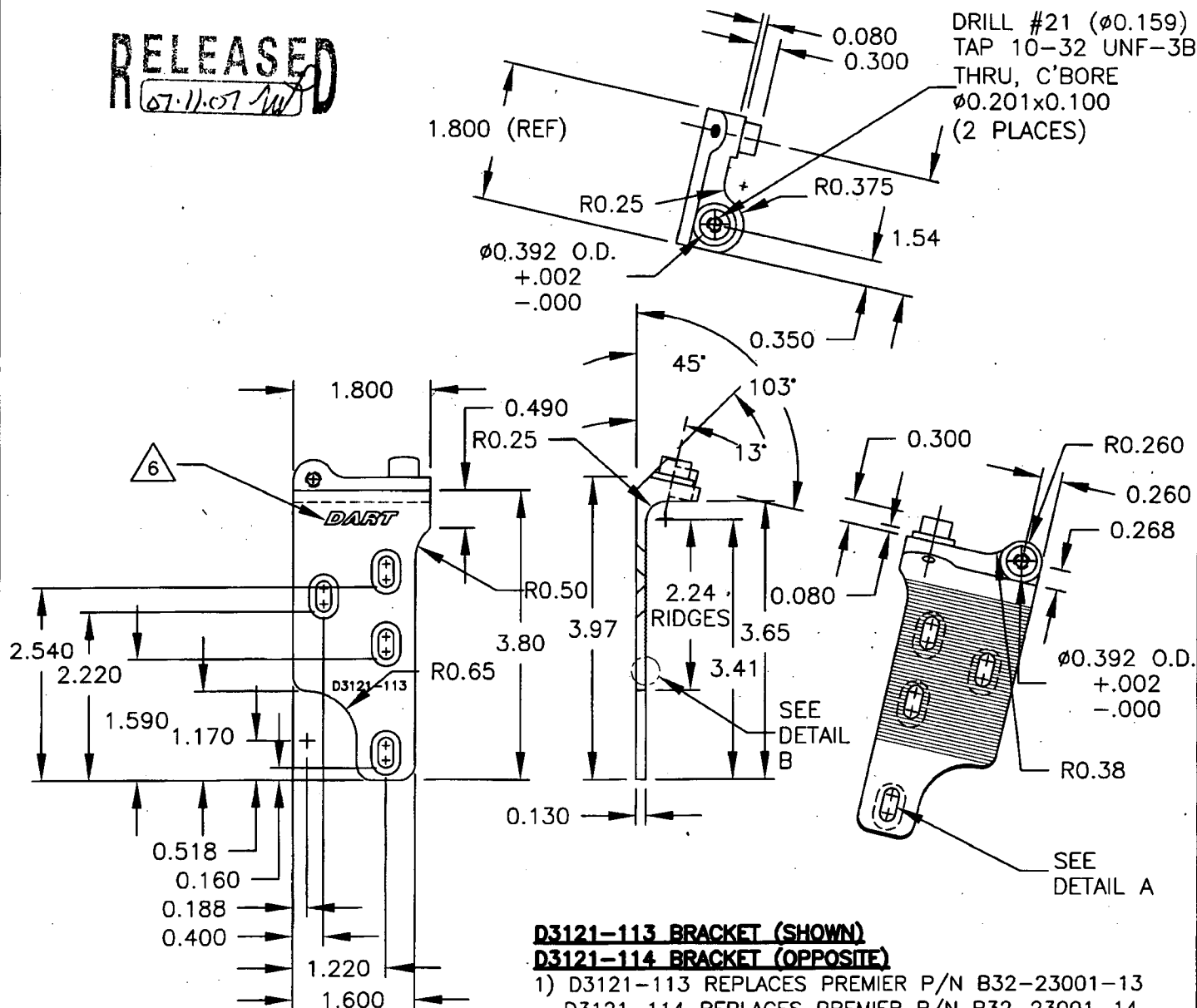
Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

52365

DART

DESIGN #	DRAWN BY LE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3121	REV. E SHEET 8 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

RELEASED
07.11.07

D3121-113 BRACKET (SHOWN)
D3121-114 BRACKET (OPPOSITE)

- 1) D3121-113 REPLACES PREMIER P/N B32-23001-13
D3121-114 REPLACES PREMIER P/N B32-23001-14
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

Copyright © 2002 by DART AEROSPACE LTD

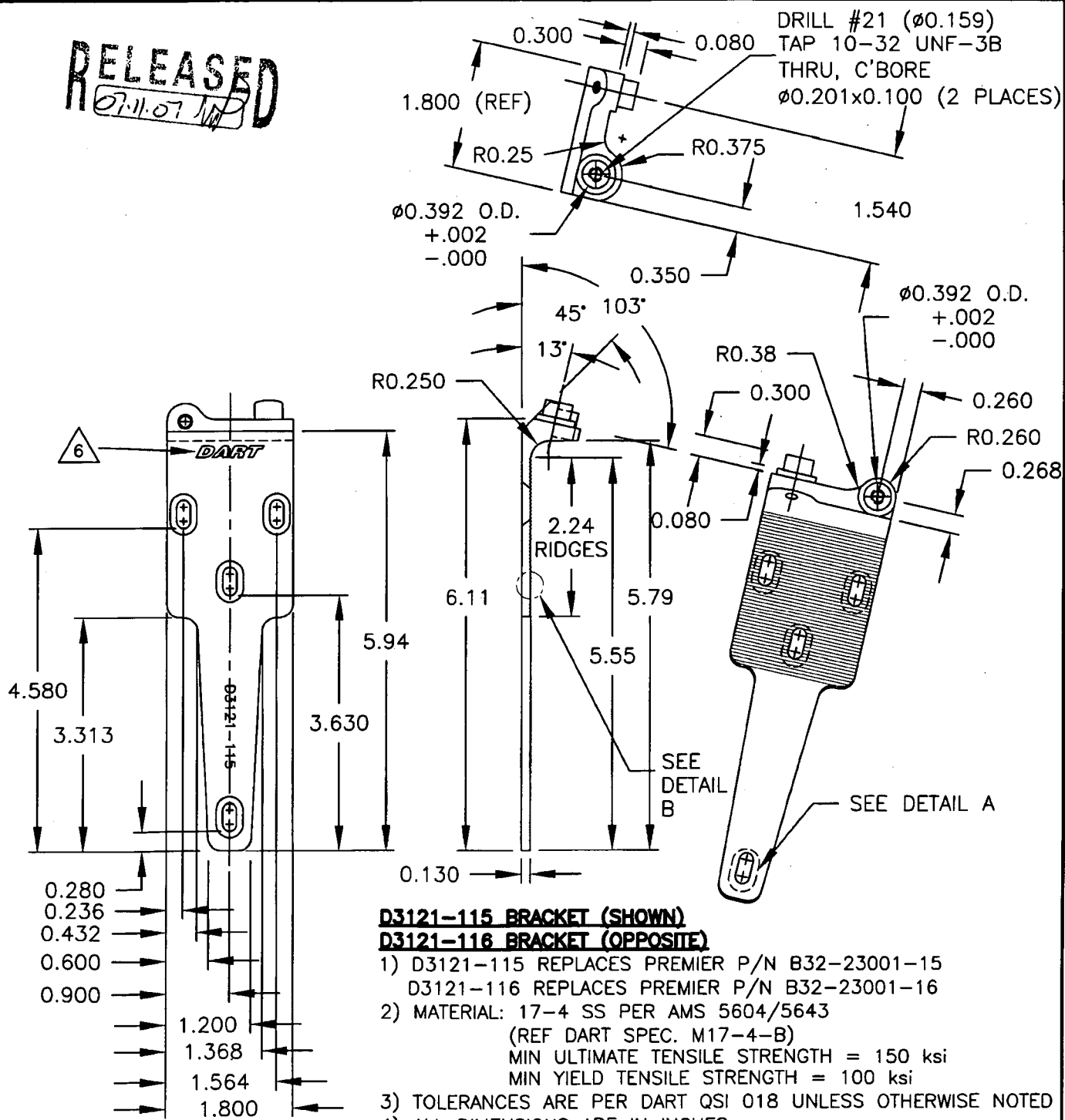
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

52365

DART

DESIGN #	DRAWN BY LE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3121	REV. E SHEET 9 OF 10
DATE 07.11.07	TITLE BRACKET ASSEMBLY		SCALE 1:2

RELEASED
07.11.07



D3121-115 BRACKET (SHOWN)

D3121-116 BRACKET (OPPOSITE)

- 1) D3121-115 REPLACES PREMIER P/N B32-23001-15
D3121-116 REPLACES PREMIER P/N B32-23001-16
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

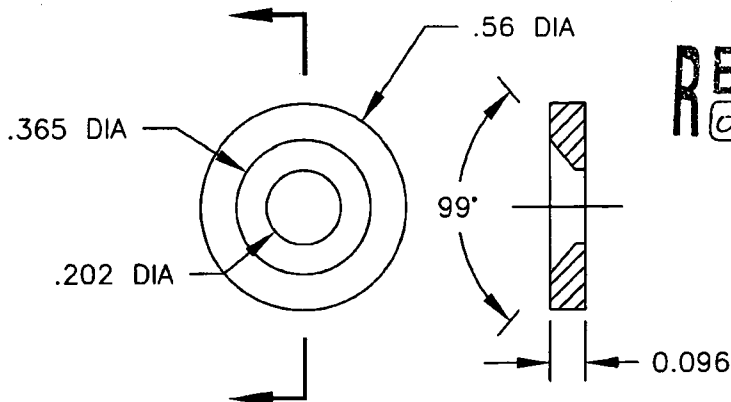
Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

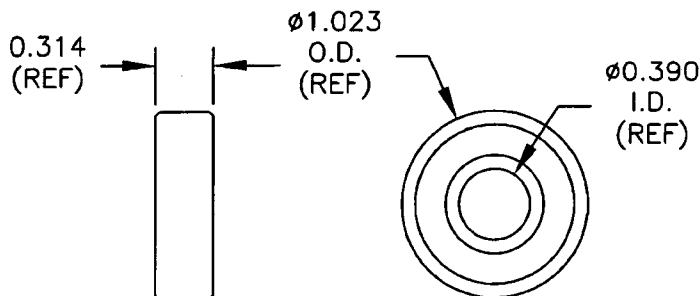
52365-

DART

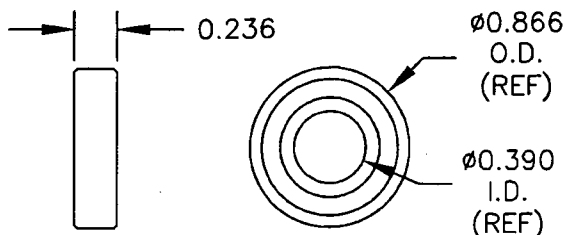
DESIGN #	DRAWN BY LE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3121	REV. E SHEET 10 OF 10
DATE 07.11.07	TITLE BRACKET ASSEMBLY		SCALE 1:1

**D3121-17 WASHER (SCALE 2:1)**

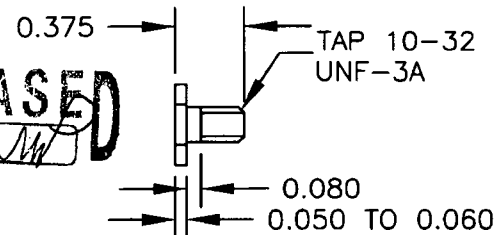
- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-19 BEARING (SCALE 1:1)**

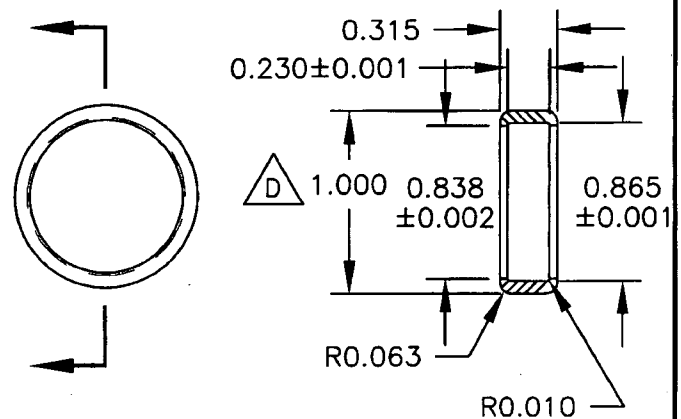
- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES

**D3121-23 BEARING (SCALE 1:1)**

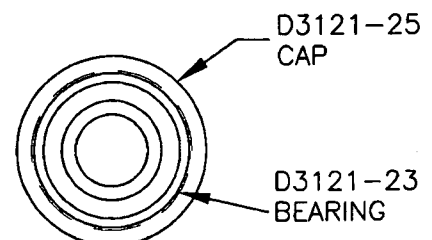
- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z OR KML P/N 6900-ZZ
- 2) ALL DIMENSIONS ARE IN INCHES

**D3121-21 BOLT (SCALE 1:1)**

- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-25 CAP (SCALE 1:1)**

- 1) MATERIAL: DELRIN ROD, $\phi 1.25$ (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

**D3121-241 BEARING ASSEMBLY (SCALE 1:1)**

Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DART AEROSPACE LTD		Work Order: 52365
Description: Bracket		Part Number: D3121-113
Inspection Dwg: D3121	Rev: E	Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.080	+/-0.010	.081	✓			
0.300	+/-0.010	.301	✓			
R0.375	+/-0.010	R.375	✓			
1.54	+/-0.030	1.54	✓			
0.350	+/-0.010	.352	✓			
R0.25	+/-0.030	R.25	✓			
Ø0.392	+0.002/-0.000	Ø.393	✓			
Ø0.201	+0.005/-0.000	Ø.201	✓			
2.540	+/-0.010	2.535	✓			
1.590	+/-0.010	1.585	✓			
0.160	+/-0.010	.155	✓			
0.400	+/-0.010	.393	✓			
1.220	+/-0.010	1.214	✓			
1.600	+/-0.010	1.600	✓			
3.80	+/-0.030	3.80	✓			
1.800	+/-0.010	1.800	✓			
R0.50	+/-0.030	R.50	✓			
0.130	+/-0.010	.128	✓			
3.41	+/-0.030	3.41	✓			
3.65	+/-0.030	3.62	✓			
2.24	+/-0.030	2.21	✓			
45°	+/-0.1°	45°	✓			
R0.25	+/-0.030	R.25	✓			
3.97	+/-0.030	3.97	✓			
R0.38	+/-0.030	R.375	✓			
Ø0.392	+0.002/-0.000	Ø.393	✓			
Ø0.201	+0.005/-0.000	Ø.201	✓			
0.268	+/-0.010	.266	✓			
R0.260	+/-0.010	R.260	✓			
0.080	+/-0.010	.078	✓			
0.300	+/-0.010	.298	✓			
0.381	+/-0.010	.381	✓			
0.201	+/-0.010	.205	✓			
0.580	+/-0.010	.580	✓			